

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: ITL44173

Luminaire Tested: **DIVM-296PG**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: ITL44173
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: DIVM-296PG
Description: FABRICATED METAL STRIP BALLAST HOUSING WITH WHITE PAINTED SOCKET HOUSINGS, WHITE PAINTED FABRICATED METAL REFLECTOR WITH UP-LIGHT APERTURES, TRIANGULAR RAISED CENTER SECTION, OPEN ENDS AND BOTTOM.
Light Source: TWO 215-WATT F96PG17/CW FLUORESCENTS.
Ballast/Driver: MAGNETEK UNIVERSAL 931-LH-TC-P (BALLAST FACTOR 90.2 %).

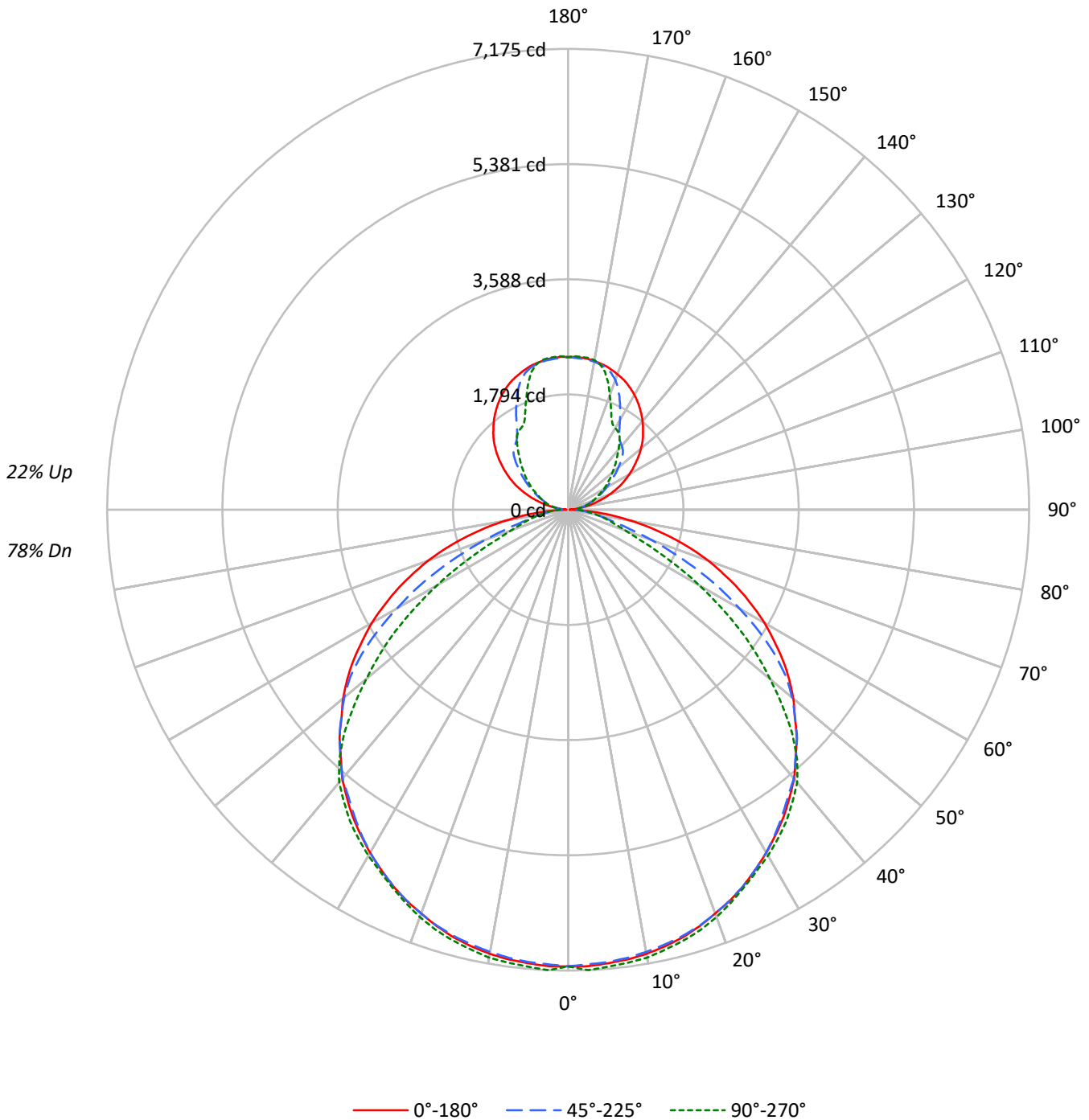
Summary

Lumens per Lamp: 15300 (2 lamps)
Luminaire Lumens: 25823.2 lumens
Efficiency: 84.4%
Efficacy: 65.5 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.3 / 1.42
Luminous Opening: Rectangular (W 1.08' x L: 8' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 394
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 96 | 96 | 96 | 96 | 92 | 92 | 92 | 92 | 84 | 84 | 84 | 76 | 76 | 76 | 69 | 69 | 69 | 66 |
| 1 | 88 | 84 | 81 | 78 | 84 | 81 | 77 | 75 | 74 | 71 | 69 | 67 | 65 | 64 | 61 | 60 | 59 | 56 |
| 2 | 80 | 74 | 68 | 64 | 76 | 70 | 66 | 61 | 65 | 61 | 57 | 59 | 56 | 53 | 54 | 52 | 50 | 47 |
| 3 | 73 | 65 | 58 | 53 | 70 | 62 | 56 | 51 | 57 | 52 | 48 | 52 | 48 | 45 | 48 | 45 | 42 | 40 |
| 4 | 67 | 57 | 50 | 45 | 64 | 55 | 49 | 44 | 51 | 45 | 41 | 47 | 42 | 39 | 43 | 39 | 36 | 34 |
| 5 | 61 | 51 | 44 | 39 | 58 | 49 | 42 | 37 | 45 | 40 | 35 | 42 | 37 | 33 | 38 | 35 | 31 | 29 |
| 6 | 57 | 46 | 39 | 34 | 54 | 44 | 37 | 33 | 41 | 35 | 31 | 38 | 33 | 29 | 35 | 31 | 28 | 26 |
| 7 | 52 | 42 | 34 | 29 | 50 | 40 | 33 | 29 | 37 | 31 | 27 | 34 | 29 | 26 | 32 | 28 | 24 | 23 |
| 8 | 49 | 38 | 31 | 26 | 46 | 36 | 30 | 26 | 34 | 28 | 24 | 31 | 27 | 23 | 29 | 25 | 22 | 20 |
| 9 | 45 | 35 | 28 | 23 | 43 | 33 | 27 | 23 | 31 | 26 | 22 | 29 | 24 | 21 | 27 | 23 | 20 | 18 |
| 10 | 43 | 32 | 25 | 21 | 41 | 31 | 25 | 21 | 29 | 23 | 20 | 27 | 22 | 19 | 25 | 21 | 18 | 16 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 8831 | 8831 | 8831 |
| 5° | 8838 | 8812 | 8903 |
| 10° | 8855 | 8817 | 8930 |
| 15° | 8863 | 8836 | 8929 |
| 20° | 8841 | 8846 | 8919 |
| 25° | 8850 | 8850 | 8886 |
| 30° | 8846 | 8840 | 8919 |
| 35° | 8861 | 8809 | 8978 |
| 40° | 8867 | 8853 | 8990 |
| 45° | 8840 | 8849 | 8661 |
| 50° | 8836 | 8794 | 7930 |
| 55° | 8831 | 8497 | 7074 |
| 60° | 8774 | 7661 | 5870 |
| 65° | 8626 | 6545 | 4438 |
| 70° | 8429 | 5019 | 3439 |
| 75° | 7942 | 3522 | 3153 |
| 80° | 7138 | 3204 | 3176 |
| 85° | 5843 | 3463 | 3890 |



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

| Zone | Lumens | % Fixture | % Lamp | | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----------|---------|-----------|--------|------|------|-------|------|-------|------|------|
| 0°-10° | 674.0 | 2.6 | 2.2 | 0° | 7110 | 7110 | 7110 | 7110 | 7110 | |
| 10°-20° | 1945.5 | 7.5 | 6.4 | 5° | 7089 | 7051 | 7068 | 7098 | 7141 | 675 |
| 20°-30° | 2980.9 | 11.5 | 9.7 | 15° | 6893 | 6872 | 6872 | 6902 | 6944 | 1945 |
| 30°-40° | 3668.0 | 14.2 | 12.0 | 25° | 6458 | 6454 | 6458 | 6480 | 6484 | 2977 |
| 40°-50° | 3867.0 | 15.0 | 12.6 | 35° | 5844 | 5870 | 5810 | 5887 | 5921 | 3655 |
| 50°-60° | 3379.9 | 13.1 | 11.0 | 45° | 5033 | 5059 | 5038 | 5051 | 4931 | 3878 |
| 60°-70° | 2271.3 | 8.8 | 7.4 | 55° | 4078 | 4082 | 3924 | 3528 | 3267 | 3638 |
| 70°-80° | 1090.8 | 4.2 | 3.6 | 65° | 2935 | 2956 | 2227 | 1766 | 1510 | 2899 |
| 80°-90° | 321.3 | 1.2 | 1.0 | 75° | 1655 | 1472 | 734 | 700 | 657 | 1747 |
| 90°-100° | 148.7 | 0.6 | 0.5 | 85° | 410 | 252 | 243 | 277 | 273 | 454 |
| 100°-110° | 366.5 | 1.4 | 1.2 | 90° | 24 | 78 | 100 | 125 | 131 | 29 |
| 110°-120° | 608.7 | 2.4 | 2.0 | 95° | 83 | 125 | 115 | 133 | 133 | 107 |
| 120°-130° | 813.1 | 3.1 | 2.7 | 105° | 457 | 341 | 310 | 336 | 329 | 486 |
| 130°-140° | 962.8 | 3.7 | 3.1 | 115° | 894 | 674 | 545 | 529 | 511 | 881 |
| 140°-150° | 985.4 | 3.8 | 3.2 | 125° | 1289 | 960 | 841 | 790 | 760 | 1153 |
| 150°-160° | 877.4 | 3.4 | 2.9 | 135° | 1648 | 1361 | 1199 | 1094 | 1053 | 1270 |
| 160°-170° | 636.5 | 2.5 | 2.1 | 145° | 1939 | 1857 | 1383 | 1401 | 1394 | 1213 |
| 170°-180° | 225.3 | 0.9 | 0.7 | 155° | 2167 | 2160 | 1895 | 1678 | 1589 | 998 |
| 0°-30° | 5600.4 | 21.7 | 18.3 | 165° | 2310 | 2297 | 2284 | 2256 | 2218 | 652 |
| 0°-40° | 9268.4 | 35.9 | 30.3 | 175° | 2375 | 2358 | 2360 | 2367 | 2387 | 226 |
| 0°-60° | 16515.3 | 64.0 | 54.0 | 180° | 2376 | 2376 | 2376 | 2376 | 2376 | |
| 0°-90° | 20198.6 | 78.2 | 66.0 | | | | | | | |
| 90°-120° | 1123.9 | 4.4 | 3.7 | | | | | | | |
| 90°-150° | 3885.3 | 15.0 | 12.7 | | | | | | | |
| 90°-180° | 5625.0 | 21.8 | 18.4 | | | | | | | |
| 0°-180° | 25823.2 | 100.0 | 84.4 | | | | | | | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|------|
| 0° | 7110 | 7110 | 7110 | 7110 | 7110 |
| 2.5° | 7115 | 7068 | 7085 | 7115 | 7175 |
| 5° | 7089 | 7051 | 7068 | 7098 | 7141 |
| 7.5° | 7064 | 7026 | 7038 | 7068 | 7115 |
| 10° | 7021 | 6987 | 6991 | 7021 | 7081 |
| 12.5° | 6962 | 6932 | 6936 | 6970 | 7013 |
| 15° | 6893 | 6872 | 6872 | 6902 | 6944 |
| 17.5° | 6799 | 6782 | 6791 | 6825 | 6859 |
| 20° | 6689 | 6689 | 6693 | 6731 | 6748 |
| 22.5° | 6586 | 6578 | 6582 | 6612 | 6620 |
| 25° | 6458 | 6454 | 6458 | 6480 | 6484 |
| 27.5° | 6313 | 6322 | 6313 | 6322 | 6347 |
| 30° | 6168 | 6177 | 6164 | 6172 | 6219 |
| 32.5° | 6006 | 6032 | 5993 | 6027 | 6074 |
| 35° | 5844 | 5870 | 5810 | 5887 | 5921 |
| 37.5° | 5656 | 5686 | 5622 | 5724 | 5733 |
| 40° | 5469 | 5515 | 5460 | 5541 | 5545 |
| 42.5° | 5238 | 5281 | 5242 | 5315 | 5272 |
| 45° | 5033 | 5059 | 5038 | 5051 | 4931 |
| 47.5° | 4786 | 4824 | 4790 | 4718 | 4522 |
| 50° | 4573 | 4577 | 4551 | 4338 | 4104 |
| 52.5° | 4334 | 4334 | 4274 | 3946 | 3694 |
| 55° | 4078 | 4082 | 3924 | 3528 | 3267 |
| 57.5° | 3796 | 3813 | 3519 | 3076 | 2798 |
| 60° | 3532 | 3553 | 3084 | 2636 | 2363 |
| 62.5° | 3233 | 3267 | 2666 | 2171 | 1920 |
| 65° | 2935 | 2956 | 2227 | 1766 | 1510 |
| 67.5° | 2619 | 2611 | 1779 | 1356 | 1169 |
| 70° | 2321 | 2261 | 1382 | 1045 | 947 |
| 72.5° | 1988 | 1864 | 1002 | 836 | 776 |
| 75° | 1655 | 1472 | 734 | 700 | 657 |
| 77.5° | 1322 | 1032 | 563 | 572 | 546 |
| 80° | 998 | 661 | 448 | 465 | 444 |
| 82.5° | 691 | 384 | 337 | 371 | 350 |
| 85° | 410 | 252 | 243 | 277 | 273 |
| 87.5° | 137 | 149 | 158 | 192 | 179 |
| 90° | 24 | 78 | 100 | 125 | 131 |
| 92.5° | 25 | 82 | 99 | 123 | 129 |
| 95° | 83 | 125 | 115 | 133 | 133 |
| 97.5° | 169 | 165 | 168 | 177 | 163 |
| 100° | 257 | 214 | 226 | 232 | 217 |
| 102.5° | 355 | 276 | 272 | 288 | 275 |
| 105° | 457 | 341 | 310 | 336 | 329 |
| 107.5° | 568 | 419 | 360 | 379 | 375 |
| 110° | 672 | 500 | 417 | 424 | 417 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|------|
| 112.5° | 788 | 583 | 479 | 473 | 463 |
| 115° | 894 | 674 | 545 | 529 | 511 |
| 117.5° | 997 | 770 | 613 | 596 | 572 |
| 120° | 1093 | 846 | 684 | 656 | 634 |
| 122.5° | 1193 | 906 | 761 | 725 | 699 |
| 125° | 1289 | 960 | 841 | 790 | 760 |
| 127.5° | 1388 | 1032 | 930 | 865 | 834 |
| 130° | 1478 | 1122 | 1016 | 935 | 899 |
| 132.5° | 1568 | 1234 | 1109 | 1014 | 973 |
| 135° | 1648 | 1361 | 1199 | 1094 | 1053 |
| 137.5° | 1723 | 1492 | 1260 | 1183 | 1130 |
| 140° | 1800 | 1617 | 1298 | 1270 | 1218 |
| 142.5° | 1871 | 1746 | 1330 | 1354 | 1307 |
| 145° | 1939 | 1857 | 1383 | 1401 | 1394 |
| 147.5° | 2003 | 1955 | 1479 | 1423 | 1442 |
| 150° | 2064 | 2036 | 1613 | 1458 | 1466 |
| 152.5° | 2117 | 2104 | 1754 | 1538 | 1497 |
| 155° | 2167 | 2160 | 1895 | 1678 | 1589 |
| 157.5° | 2208 | 2203 | 2035 | 1836 | 1735 |
| 160° | 2243 | 2241 | 2149 | 1991 | 1892 |
| 162.5° | 2278 | 2272 | 2229 | 2148 | 2068 |
| 165° | 2310 | 2297 | 2284 | 2256 | 2218 |
| 167.5° | 2332 | 2318 | 2318 | 2317 | 2312 |
| 170° | 2351 | 2336 | 2339 | 2349 | 2363 |
| 172.5° | 2367 | 2351 | 2353 | 2363 | 2383 |
| 175° | 2375 | 2358 | 2360 | 2367 | 2387 |
| 177.5° | 2383 | 2367 | 2367 | 2372 | 2391 |
| 180° | 2376 | 2376 | 2376 | 2376 | 2376 |

(END OF REPORT)